

I claim the following:

1. A flat transponder having an electronic circuit which is arranged in a layer or in a layer composite and which contains at least one chip and conductor tracks or conductor wires, characterized in that the circuit is arranged in or on a circuit carrier (7) made of plastic, on whose two larger opposite outer surfaces a paper layer (6) applied by lamination is in each case applied.
2. The transponder as claimed in claim 1, characterized in that the paper layer (6) consists of coated paper.
3. The transponder as claimed in claim 1 or 2, characterized in that the circuit carrier (7) consists of a layer in which an antenna (2) and a module (3) having module connections (4) are embedded.
4. The transponder as claimed in claim 1 or 2, characterized in that the circuit carrier (7) comprises at least two plastic films (7.1, 7.2), between which there are arranged an antenna (2) and a module (3) having module connections (4).
5. The transponder as claimed in one of the preceding claims, characterized in that the circuit carrier (7) consists of polyethylene.
6. The transponder as claimed in one of the preceding claims, characterized in that notches (11) are introduced into at least one paper layer (6).
7. The transponder as claimed in claim 6, characterized in that the notches (11) are made in the form of trenches having parallel or V-shaped limits.
8. The transponder as claimed in claim 6 or 7, characterized in that the depth of the notches (11) is less than the thickness of the paper layer (6).
9. The transponder as claimed in claim 6 or 7, characterized in that the notches (11) penetrate through the paper layer (6) and penetrate into the adjacent layer of the circuit carrier (7).
10. The transponder as claimed in one of claims 6 to 9, characterized in that the notches (11) are applied at different intervals and/or with a different depth

on the various sections of the paper layer (6) in order to create surface regions of different flexibility and/or different flexibility directions.

- 5      11.      The transponder as claimed in one of the preceding claims, characterized in that the notches (11) are arranged in the form of visible cut patterns or symbols.
- 10      12.      The transponder as claimed in one of claims 1 to 11, characterized in that the circuit is enclosed completely by the material of the circuit carrier (7).
- 15      13.      The transponder as claimed in one of claims 1 to 11, characterized in that the module (3) consists of a rigid body which is arranged in an aperture which is located in the circuit carrier (7) and the paper layer (6) located above the latter.
- 20      14.      A method for the production of a transponder as claimed in one of claims 1 to 13, characterized in that the circuit is fitted in or on a circuit carrier (7) made of plastic and in each case a paper layer (6) is applied to both sides of the circuit carrier (7) by lamination.
- 25      15.      The method as claimed in claim 14, characterized in that the lamination is carried out by means of hot pressing of circuit carrier (7) and paper layers (6) together between laminating plates or laminating rolls.
- 30      16.      The method as claimed in claim 14, characterized in that notches (11) are introduced on at least one surface side of the laminate (1).
- 35      17.      The method as claimed in claim 16, characterized in that the notches (11) are produced during the lamination by means of notching webs fitted in an elevated manner to the laminating plates or laminating rolls, the form of said notching webs corresponds to the form of the notches (11) to be produced.
18.      The method as claimed in claim 16, characterized in that the notches (11) are introduced by means of knife or saw cuts after the lamination.
19.      The method as claimed in claim 16, characterized in that the notches (11) are introduced by means of laser cuts after the lamination.

20. The method as claimed in claim 16, characterized in that the notches (11) are produced by combined introduction by means of laminating plates during the lamination and by knife, saw or laser cuts after the lamination.